

1/2 019 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--CONTRIBUTION OF ANHARMONICITY IN A COULOMBIC SUBSYSTEM TO TWO
PHOTON ABSORPTION -U-
AUTHOR--(02)-GRIBAN, V.N., OVANDER, L.N.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(2), 448-54
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--LIGHT ABSORPTION, IONIC CRYSTAL, COULOMB INTERACTION, OPTIC
TRANSITION, MATRIX ELEMENT, EXCITON, TRANSITION PROBABILITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1983/1613 STEP NO--UR/0181/70/012/002/0448/0454
CIRC ACCESSION NO--AP0054463
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0054463

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONTRIBUTION WAS CONSIDERED OF THE OPERATOR OF INTERMOL. INTERACTION TO 2 PHOTON EXCITON ABSORPTION OF LIGHT. COMPONENTS OF COULOMBIC ANHARMONICITY RESPONSIBLE FOR THIS CONTRIBUTION WERE OBTAINED IN TERMS OF THE THEORY OF POLARITONS. THE MATRIX ELEMENT OF THE TRANSITION DEPENDS ON THE DIRECTIONS OF THE WAVE VECTORS OF POLARIZATION AS WELL AS ON THE DIRECTIONS OF THE WAVE VECTORS OF RADIATION FLUXES IN THE CRYSTAL, WHICH DIFFERENTIATES IT FROM THE MATRIX ELEMENT OBTAINED FROM THE OPERATOR OF ELECTRON PHOTON INTERACTION. INVESTIGATION WITH THE AID OF GROUP THEORY SHOWED THAT 2 PHOTON ABSORPTION, DETD. BY COULOMBIC ANHARMONICITY FOR CERTAIN DIRECTIONS OF THE WAVE VECTORS AND POLARIZATION VECTORS IN A SERIES OF CASES CAN BE SEPTD. FROM 2 PHOTON ABSORPTION DETD. BY ELECTRON PHOTON INTERACTION. POSSIBILITY OF SUCH SEPN. DEPENDS ON THE CRYSTAL CLASS AND THE TYPE OF EXCITON STATE. A SERIES OF CASES WERE CONSIDERED IN DETAIL AND THE TABLES ARE GIVEN OF THE ANGULAR DEPENDENCES OF THE PROBABILITY OF THE PROCESS. THIS REPRESENTS A POSSIBILITY OF DIRECT EXPTL. VERIFICATION OF THE RELATIVE ROLE OF COULOMBIC ANHARMONICITY IN 2 PHOTON ABSORPTION OF LIGHT. FACILITY: NEZHIN. GOS. PEDAGOG. INST. IM. GOGOLYA, NEZHIN, USSR.

UNCLASSIFIED

USSR

UDC 553.981/982(479.24)"313"

OVANESOV, G. P., DURMISH'YAN, A. G., and YUSUF-ZADE, Kh. B., Ministry of
Petroleum Industry, Caspian Sea Administration for Oil Exploration

"Prospects for Discovery of Oil and Gas Fields in the Baku Archipelago"

Moscow, Geologiya Nefti i Gaza, No 1, Jan 73, pp 1-5

Abstract: Exploratory structural and cartographic drilling, analysis of volcanic activity and products of their eruptions are said to indicate the probability of finding petroleum and gas deposits in the Baku Archipelago. The findings to date in this area are briefly reviewed. In summarizing the specific peculiarities of the anticlinal rise the large throw and the high charging coefficient of the pits, secondary longitudinal disturbances in tectonic structure, regional anomalous high stratal pressure, regularity of development of hydrocarbons in folds, particularly in the gaseous phase, and the high productivity of Pleocene rises are discussed and their further utilization considered. These peculiarities are said to illuminate the formation of petroleum and gas deposits and to indicate the necessary direction for further investigations.

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USSR

UDC 551.46.087.08

YAMKOVY, V. A., OVANESOV, O. G., LATYSHEVA, G. I., STRUTSINSKIY, A. V., and
MATVEYEV, V. A.

"A Marine Water Temperature Meter"

Kiev, Vestn. Kiev. politekhn. in-ta. Ser. priborost. (Journal of the Kiev
Polytechnic Institute-Instrument Engineering Series) No 3, 1972, pp 34-35
(from Referativnyy Zhurnal -- Metrologiya i Izmeritel'naya Tekhnika, No 1,
1973, Abstract No 1.32.723 by V. S. Krasnova)

Translation: A short description of an instrument for measuring the temperature
of marine water is presented, whose function is based on the transformation of
temperature into an electrical signal. The average temperature is measured by
the unbalance current of a bridge using a microammeter M=1690+A, first class,
with current limits 0-100 microamp, as an indicator. The range of temperature
from -2°C to +35°C is broken down into four subranges of 10°C each. The
voltage of the feeding measurement circuit is 9.86 volts constant current.
The instrument assures the measurement of temperature in each range with an
accuracy of $\pm 0.1^\circ\text{C}$. The maximum endurance time of the monitor for a fixed
level and a discrete measurement is 4-5 seconds. (1 illustration, English
resume)

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USSR

UDC 8.74

OVANISYAN, A. G.

"Formation of Effective Addresses of Memory Cells"

Tr. Vychisl. tsentra AN ArmSSR I. Yerevan. un-ta (Works of the Computation Center of the Armenian SSR Academy of Sciences and Yerevan University), 1972, No 7, pp 102-110 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V557)

Translation: The presence in the Garni computer of two types of memories with address access and also specific characteristics of the two-dimensional ready-access memory advance a number of problems connected with the formation of the effective addresses. In the article a synthesis of a device which realizes address modification and readdressing as a function of the executed command, the type of memory and the cell orientation of the two-dimensional ready-access memory is presented.

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USSR

UDC 8.74

OVANISYAN, A. G., URUTYAN, R. L.

"Operation Circuit"

Tr. Vychisl. tsentra AN ArmSSR i Yerevan. un-ta (Works of the Computation Center of the Armenian SSR Academy of Sciences and Yerevan University). 1972, No 7, pp 47-68 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V560)

Translation: The description of the logical circuitry and synthesis of the local control module and shift circuit are presented. A procedure is given for synthesizing the control circuit realized by means of microprograms considering the utilization of the pulse-potential logical elements. A study was made of the problems of constructing single-cycle functional circuits with many outputs.

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USSR

UDC 8.74

OVANISYAN, A. G., URUTYAN, R. L.

"Construction Determinant"

Tr. Vychisl. tsentra AN ArmSSR i yerevan. un-ta (Works of the Computation Center of the Armenian SSR Academy of Sciences and Yerevan University), 1972, No 7, pp 91-101 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V562)

Translation: A study was made of the problems connected with constructing automata designed to isolate (find) certain constructions given in advance. A construction is made up of defined (given in advance) configurations of ones and zeros in a set of binary numbers. The possibility of constructing an automaton which realizes search for a series of different types of constructions is demonstrated.

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USSR

OVCHARENKO, A., SEVOST'YANOV, K.

"Basic Areas and Procedures of Oil and Gas Exploration in Sakhalin, Kamchatka and the Northeastern Part of the USSR"

Moscow, Geologiya nefi i gazi, No 6, 1972, pp 76-78

Abstract: A meeting of the petroleum, gas and geophysics sections of the Geological Appraisal Council of the RSFSR Ministry of Geology on the basic areas and procedure of oil and gas exploration operations in Sakhalin, Kamchatka and the northeastern part of the USSR was held from 24 May to 23 May 1971 in Yuzhno-Sakhalinsk. The conclusions drawn from the reports given at that meeting are summarized. The geological structure of Southern Sakhalin is very complex, and there were noteworthy oil and gas shows the data on which are presented. In Kamchatka, the most prospective areas are the Kolpak Basin and the Tigil' Fold. Results are presented from concentrated drilling in the Anadyr Basin in the northeastern part of the USSR. Several anticlinal zones were established on the Western Kamchatka Shelf. A large anticlinal fold was mapped on the Bering Sea 30 km northeast of Khatyrka. The most prospective for deep drilling was the Sakhalin Shelf where 30 prospective structures were discovered. Recommendations were made with respect to each of the investigated areas for further development of the oil and gas extraction industry and geological exploratory operations. These recommendations are listed.

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OVCHARENKO, ANATOLIY VASIL'YEVICH

PETROLEUM PROSPECTING

FUELS AND RELATED EQUIPMENT

Serial: JPRS # 61185
11/1/74

18 Feb. '94

SAKHALIN ISLAND SHEET PROSPECTS FOR OIL AND GAS FIELDS
[Article by R. M. Dedyukhin of the USSR Ministry of Geology,
Chief of the Sakhalin Geological Administration, "Prospects for the Sakhalin
Sheet Contains Oil and Gas", Moscow, Geologiya Miroi i Gory, November, 1973, pp 9-12]

! Petroleum and gas are produced in the Soviet Far East only on Sakhalin Island. This fact assigns great economic value to Sakhalin as a raw-materials base for developing a petroleum-producing industry in the region. Tightly mine gas and oil fields — 13 of them gas — have now been explored on Sakhalin. The fields are basically multilayered, or multi-store, and of extremely complex geological structure.

bedding's exploitable reserves of gas and oil are associated primarily with Miocene sediments, of which 82 percent are confined to the upper Miocene, 18 percent to the Middle Miocene. About 90 percent of the hydrocarbons have been discovered at depths of less than 2,000 meters. The combination of oil and gas by cross-section and the change in rock type of the collector's favorable for accumulating oil and gas indicate that there are major prospects for discovering new fields associated with the Middle Miocene formations. The Paleogene sediments of north Sichuan and Gulinian formations, which thicknesses vary from 5 to 7 kilometers, may be oil- or gas-bearing.

However, the greatest potential for substantial growth of oil and gas reserves on Sabhalinn is linked with its shelf. Marcellus geophysical studies and deep drilling performed on the island's coastline in recent years have established the fact that Sabhalinn's shelf seems to be extremely promising for oil and gas prospecting. This permits the shelf to be viewed as a primary site for geological prospecting.

Sokalin's shelf has established several tectonic troughs which are characterized by a broad bulging of terrigenous sediments, and more than 10

1/2 024

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--EXPERIMENTAL STUDY OF RADIONUCLIDE TRANSFER THROUGH THE PLACENTA
AND THEIR BIOLOGICAL ACTION ON THE FETUS -U-

AUTHOR--(05)-MOSKALEV, YU.I., BULDAKOV, L.A., LYANGINSKAYA, A.M.,

GVCHARENKO, E.P., YEGOROVA, T.M.

COUNTRY OF INFO--USSR

SOURCE--(CONF 690501, PP 153-60)

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, NUCLEAR SCIENCE AND
TECHNOLOGY

TOPIC TAGS--PLACENTAL TRANSPORT, RADIOACTIVE ISOTOPE, TRANSURANIUM
ELEMENT, FETUS, STRONTIUM ISOTOPE, AMERICIUM ISOTOPE, IODINE ISOTOPE,
RADIATION BIOLOGIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/2183

STEP NO--UR/0000/70/000/000/0153/0160

CIRC ACCESSION NO--AT0127547

2/2 024

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0127547

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LEVELS OF RADIONUCLIDE TRANSFERRED TO THE FETUS AND RADIONUCLIDE RETENTION IN THE PLACENTA DEPEND ON THE CHEMICAL CHARACTERISTICS OF THE NUCLIDE AND THE PERIOD OF PREGNANCY. THE PLACENTAL TRANSFER OF ALL NUCLIDES INCREASED BETWEEN MIDTERM (11 TO 15 DAYS OF GESTATION) AND THE END OF PREGNANCY. THE RATIOS OF THE NUCLIDE TRANSFERRED TOWARD TERM TO THAT TRANSFERRED EARLIER WERE PRIME239 PU, 1.7; PRIME241 AM, 2.8 TO 4.5; PRIME137 CS, HTO, AND PRIME237 NP, 5; PRIME90 SR, 20; AND PRIME131 I, 1700 TO 6000. THE CONTENT OF TRANSURANIC ELEMENTS IN THE PLACENTA AT ALL PERIODS OF PREGNANCY WAS 3 TO 15 TIMES HIGHER THAN IN THE FETUSES. RADIOINDUCED CHANGES IN THE EMBRYO DEPEND ON THE AMOUNT OF ACTIVITY INJECTED, THE DISTRIBUTION PATTERN, AND THE PHYSICAL PROPERTIES OF THE RADIONUCLIDE. THE MOST CHARACTERISTIC CHANGES ASSOCIATED WITH THE VARIOUS RADIONUCLIDES ARE: PRIME90 SR, A DECREASE IN THE TRANSFER OF NUCLIDE FROM PLACENTA TO FETUS; PRIME241 AM, EARLIER INDUCTION OF RADIATION DISORDERS IN THE PLACENTA THAN IN THE FETUSES; PRIME131 I, OCCURRENCE OF RADIOINDUCED EMBRYOPATHY DEPENDS ON THE PRODUCTION OF DISORDERS IN THE MOTHER'S THYROID; HTO, GENERALIZED VASCULAR CHANGES IN THE MOTHERS AND FETUSES. FACILITY: MINISTRY OF PUBLIC HEALTH, MOSCOW.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--DISTRIBUTION OF TRANSURANIUM ELEMENTS IN PREGNANT RATS -U-
AUTHOR--OVCHARENKO, E.P.
COUNTRY OF INFO--USSR
SOURCE--RADIOBIOLOGIYA 1970, 10(2), 306-7
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--TRANSURANIUM ELEMENT, RAT, OBSTETRICS, PLUTONIUM ISOTOPE,
AMERICIUM ISOTOPE, NEPTUNIUM ISOTOPE, LIVER, BONE, PLACENTA

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/6050C4/812 STEP NO--UR/0205/70/010/002/0306/0307
CIRC ACCESSION NO--AP0139609

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0139609

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CITRATE COMPLEXES OF PRIME239 PU OR PRIME241 AM, OR PRIME237 NP NITRATE WERE GIVEN ORALLY TO PREGNANT RATS. PRIME241 AM AND PRIME239 PU LEVELS INCREASED IN THE LIVER AND DECREASED IN BONES AS COMPARED TO NONPREGNANT ANIMALS. ALL 3 ELEMENT LEVELS WERE HIGHER IN THE PLACENTA THAN IN THE FETUS. FACILITY: INST. BIOFIZ., MOSCOW, USSR.

UNCLASSIFIED

ANO 012128

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UR 9012

AUTHOR-- OVCHARENKO, F., UKRAINIAN COMMUNIST PARTY SECRETARY

TITLE-- THIRTY-FIVE THOUSAND RESEARCHERS

NEWSPAPER-- PRAVDA, JANUARY 12, 1970, P 2, COLS 6-8

ABSTRACT-- ACCORDING TO THE ARTICLE, THE UKRAINIAN ACADEMY OF SCIENCES HAS MORE THAN 35,000 PEOPLE ON ITS STAFF.

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19570956

1/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--HYDRATION HARDENING OF DISPERSED MERWINITE -U-
AUTHOR--(03)-GOVOROV, A.A., OVRAMENKO, N.A., OVCHARENKO, F.D.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(4), 808-8
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CRYSTAL STRUCTURE, CALCIUM COMPOUND, MAGNESIUM COMPOUND,
SILICATE, HYDRATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3008/0995 STEP NO--UR/0363/70/006/004/0803/0808
CIRC ACCESSION NO--AP0138023
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138023

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CRYST. MERWINITE IN THE PURE FORM DISPLAYED INSIGNIFICANT HYDRAULIC ACTIVITY AT TREATMENT TEMPS. OF 100 AND 150DEGREES AND A SIGNIFICANTLY GREATER ACTIVITY AT 200 AND 250DEGREES, WHEREBY AT THE LATTER 2 TEMPS. IT HYDRATES ALMOST FULLY. THE PRESENCE OF A SMALL AMT. OF GLASS IMPURITIES IN THE MERWINITE SIGNIFICANTLY INCREASES THE ACTIVITY OF THE LATTER AT TEMPS. OF HYDROTHERMAL TREATMENT AT 100 AND 150DEGREES AND HAS A STRONG INFLUENCE ON THE PHASE COMPN. OF NEW FORMATIONS. WITH INCREASED TEMP. THE EFFECT OF THE GLASS IMPURITY WEAKENS. FACILITY: INST. KOLLOID. KHIM. KHIM. VODY, KIEV, USSR.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ADSORPTION OF WATER ON CATION SUBSTITUTED HALLOYSITE AND KAOLINITE
-U-
AUTHOR--(05)-OVCHARENKO, F.D., TARASEVICH, YU.I., RUDENKO, V.M.,
BONDARENKO, S.V., ALEKSEYEV, O.I.
COUNTRY OF INFO--USSR
SOURCE--UKR. KHIM. ZH. 1970, 36(3), 253-9
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--ADSORPTION, ISOTHERM, KAOLINITE, WATER, METHANOL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0895 STEP NO--UR/0073/T0/036/003/0253/0259
CIRC ACCESSION NO--AP0137923
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137923

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADSORPTION DESORPTION ISOTHERMS FOR H SUB2 O ON NATURAL HALLOYSITE AND KAOLINITE AND ON THE NH SUB4, NA, CA, AL, AND TH FORMS ARE GIVEN. THERE ARE NO GREAT DIFFERENCES IN THE HYSTERESIS LOOPS FOR THE VARIOUS FORMS OF HALLOYSITE, BUT THE KAOLINITES AT LOW RELATIVE PRESSURES HAD INCREASINGLY LARGE HYSTERESIS LOOPS IN GOING FROM THE NATURAL AND CA FORMS TO THE NA, AL, AND TH FORMS. THIS IS DISCUSSED IN TERMS OF HYDRATION OF METAL CATIONS AND IN TERMS OF THE ENERGY INVOLVED IN DISPLACING THE CATIONS FROM THE SILICATE SURFACE WITH RESULTANT HYDRATION OF BOTH METAL AND SURFACE. THE HYSTERESIS LOOPS OF MEQH ADSORBED ON KAOLINITE AND HALLOYSITE ARE MUCH NARROWER THAN THOSE OF H SUB2 O. AT A RELATIVE PRESSURES LARGER THAN 0.9, THERE IS A RAPID INCREASE IN ADSORPTION. THIS IS ATTRIBUTED TO THE PRESENCE OF PORES OF RADIUS LARGER THAN 200 ANGSTROM. A TABLE IS GIVEN OF HEATS OF WETTING AND OF VOLS. OF THE MONOLAYER FOR THESE MATERIALS. FACILITY: INST. KOLLOID, KHIM. KHIM. VODY, KIEV, USSR.

UNCLASSIFIED

1/2 007
UNCLASSIFIED
TITLE--SURFACE CONDUCTIVITY OF CLAY MINERALS -U- PROCESSING DATE--23OCT70
AUTHOR--(03)-OVCHARENKO, F.D., POLYAKOV, V.YE., ALEKSEYEV, O.L.
COUNTRY OF INFO--USSR
SOURCE--UKR. KHIM. ZH. 1970, 36(2), 170-2
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--CLAY, ION CONCENTRATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1828
CIRC ACCESSION NO--AP0123617
STEP NO--UR/0073/70/036/002/0170/0172
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123617

ABSTRACT/EXTRACT--(U) GP-U- ABSTRACT. THE SURFACE COND. DOES NOT VARY
MARKEDLY WITH THE CONC. OF THE ION. IT DECREASES IN ORDER FOR
MONTMORILLONITE, Palygorskite, TO VERMICULITE AND FOR NH SUB4 PRIME
POSITIVE, CA, MN, CO, TO CU. THE COEFF. OF EFFECTIVENESS, ALPHA EQUALS
2 PLUS KAPPA SUBSIGMA KAPPA SUBUPSILON, KAPPA SUBSIGMA EQUALS SURFACE
COND. KAPPA SUB NEGATIVE KAPPA SUBUPSILON, KAPPA EQUALS SP. COND. OF THE
FREE SOLN., DECREASES TOWARD 1 AS THE CONC. INCREASES SINCE KAPPA
SUBUPSILON INCREASES WHILE KAPPA SUBSIGMA REMAINS CONST.
FACILITY: INST. KOLLOID. KHIM. KHIM. VODY, KIEV, USSR.

UNCLASSIFIED

172 017
UNCLASSIFIED
TITLE--METHANOL AND ETHANOL ADSORPTION ON CATION SUBSTITUTED
MONTMORILLONITE AND VERMICULITE -U-
AUTHOR--(04)-TARASEVICH, YU.I., RUDENKO, V.M., SHARKINA, E.V., OVCHARENKO,
F.D.
COUNTRY OF INFO--USSR
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 266-271
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--METHYL ALCOHOL, ETHYL ALCOHOL, ADSORPTION, MINERAL, ION
EXCHANGE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1719
STEP NO--UR/0069/70/032/002/0266/0271
CIRC ACCESSION NO--AP0112713
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0112713

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SORPTION ISOTHERMS OF METHANOL AND ETHANOL VAPORS ON CATION SUBSTITUTED MONTMORILLONITE AND VERMICULITE DEGASSED AT DIFFERENT TEMPERATURES HAVE BEEN STUDIED. THE CATION SUBSTITUTED MINERAL SAMPLES SATURATED WITH LIQUID ALCOHOLS HAVE BEEN EXAMINED ROENTGENOGRAPHICALLY. IN THE CASE OF VERMICULITE IT IS MORE DIFFICULT FOR METHANOL AND ETHANOL MOLECULES TO PENETRATE INTO THE SPACE BETWEEN THE PACKETS, THAN IN THE CASE OF MONTMORILLONITE. EXCHANGE CATIONS AFFECT SIGNIFICANTLY THE INTERLAYER SORPTION OF ALCOHOLS BY BOTH MINERALS.

UNCLASSIFIED

Acc. Nr: **AP0036532**

Ref. Code: UR 0069

PRIMARY SOURCE: Kolloidnyy Zhurnal, 1970, Vol 32, Nr 1,
pp 78-82

ADSORPTION OF HYDROCARBONS ON CLAY MINERALS

ADSORPTION OF HEXANE AND HEPTANE

E. D. Oncharenko, F. A. Belik; Yu. I. Tarasevich

Summary

The adsorption of hexane and heptane vapors on clay minerals of different crystal structures: palygorskite, kaolinite and two samples of hydromica has been studied. The adsorption isotherms obey the BET equation in the range $P/P_s = 0.05-0.38$. The changes in the differential thermodynamic functions during adsorption have been calculated. The adsorption sites on the surface of Kwasi hydromica are more homogeneous than on other samples. The differential adsorption heat of benzene on the surface of clay minerals studied is somewhat higher than for hexane.

D. R.

REEL/FRAME
19721380

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1/2 013
UNCLASSIFIED
TITLE--EFFECT OF COBALT ON NITRATE REDUCTASE ACTIVITY IN LEGUMES -U-
PROCESSING DATE--04DEC70
AUTHOR--(04)--YAGODIN, B.A., OVCHARENKO, G.A., VASILYEVA, YU.V., IVANOVA,
M.A.
COUNTRY OF INFO--USSR
SOURCE--SEL SKOKHOZ. BIOL. 1970, 5(1), 134-6
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--LEGUME CROP, NITRATE, ENZYME ACTIVITY, COBALT COMPOUND, PLANT
PHYSIOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/2012
STEP NO--UR/9062/T0/005/001/0134/0136
CIRC ACCESSION NO--AP0137187
UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0137187
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COBALT STIMULATES THE NITRATE
REDUCTASE ACTIVITY IN THE LEAVES AND NODULES OF LEGUMES. APPLICATION OF
TOXIC AMTS. CAUSES CHLOROSIS AND A DECREASE IN ENZYMIC ACTIVITY. CO
APPEARS TO ACT AS AN ACTIVATOR FOR NITRATE REDUCTASE. FACILITY:
INST. FIZIOL. RAST. IM. TIMIRYAZEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 619.611.9-022.6+636.1+636.2+636.4+636.52/.58

SOBKO, A. I.; SIDOROV, I. V.; SOKOLOV, L. N.; BELOKON, I. K.;
OVCHARENKO, I. V.

"Determination of the Optimum Dose of Foot-and-Mouth Disease
Saponin Aluminum Hydroxide Formol Vaccine for Swine"

Vladimir, V sb. Yashchur. T. 1 (Foot-and-Mouth Disease, Vol 1 --
Collection of Works), 1970, pp 69-71 (from REZh-58. Zhivotno-
vodstvo i Veterinariya, No 4, Apr 71, Abstract No 4.56.572 by
A. Kusun)

Translation: Three experiments in swine immunization were con-
ducted with different variants and different doses of the vaccine.
Single immunization does not guarantee stable immunity. Double
administration of the same vaccine (20 and 40-50% immunizing
doses for guinea pigs) with an interval of 14 days) produced a
high level of immunity in 100% of the 6-10 month-old pigs.

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USSR UDC 619.611.9-022.6+636.1+636.2+636.4+636.52/.58

SOBK0, A. I.; PROKHOROV, V. N.; OVCHARENKO, I. V.

"Experimental Study of Production of Type Specific Foot-and-Mouth Disease Antibodies and Sera From Naturally Susceptible Animals"

Vladimir, V sb. Yashchur. T. 1 (Foot-and-Mouth Disease, Vol 1 -- Collection of Works), 1970, pp 3-10 (from RZh-Zhivotnovodstvo i Veterinariya, No 4, Apr 71, Abstract No 4.58.570)

Translation: Virus strains of foot-and-mouth disease variant Ai, adapted to swine and sheep, were obtained. These strains can be used in production of homologous, virus-containing material for hyperimmunization of donors of diagnostic foot-and-mouth disease immune sera. These virus strains may be used to study the activity of foot-and-mouth disease vaccines for these types of animals. The complement-fixing activity of antigens from various virus-containing organs and tissues of newborn pigs and lambs was studied during the adaptation process of

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USSR

SOBK0, A. I., et al, V sb. Yashchur. T. 1, 1970, pp 3-10

foot-and-mouth disease virus variant Ai. The most pronounced complement-fixing activity was observed with antigens prepared from the heart. Antigens from skeletal muscles of lambs retained complement-fixing activity only in the first passage. It was established that active, type-specific, diagnostic foot-and-mouth disease sera could be obtained from sheep by hyperimmunization with homologous, virus-containing tissue.

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1/2 013
UNCLASSIFIED
TITLE--DETERMINATION OF THE MATRIX ELEMENT OF THE DIPOLE MOMENT OF AN A
PRIME2 SIGMA-X PRIME2 II ELECTRON TRANSITION IN A SIF MOLECULE -U-
AUTHOR--(04)-KUZ'YAKOV, YU.YA., DVCHARENKO, I.YE., KUZMENKO, N.YE.,
KURDYUMOVA, I.N.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12(3), 555-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--SILICON-COMPOUND, FLUORIDE, ABSORPTION SPECTRUM, MATRIX
ELEMENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/0327
CIRC ACCESSION NO--AP0119314
STEP NO--UR/0368/70/012/003/0555/0557
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0119314

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ELECTRON ABSORPTION SPECTRUM WAS TAKEN OF THE SIF MOL. BY USING IMPACT TUBE TECHNIQUE TO PREP. A SUFFICIENT AMT. OF GASEOUS SIF. BY STARTING FROM THE EXPTL. INTENSITY DATA, THE SQUARED MATRIX ELEMENT OF THE DIPOLE MOMENT OF A PRIME2 SIGMA-X PRIME2 II ELECTRON TRANSITION IS 5.9 PLUS OR MINUS 0.6 AT. UNITS. THIS VALUE CORRESPONDS TO AN OSCILLATOR STRENGTH OF (4.1 PLUS OR MINUS 0.4) TIMES 10 PRIME NEGATIVE1. REAL ACCURACY IN DETG. THE MATRIX ELEMENT CAN BE CONSIDERABLY SMALLER OWING TO SYSTEMATIC ERRORS INVOLVED IN SUCH QUANTITIES AS HEATS OF FORMATION OF SIF, SIF SUB2, ETC. AND FRANCK CONDON FACTORS.

UNCLASSIFIED

1/2 034

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--NEW SCHEMES FOR QUARTZ GENERATORS BASED ON TUNNEL DIODES WITH
QUARTZ IN THE CAPACITANCE BRANCH OF THE CIRCUIT -U-

AUTHOR--(02)-OVCHARENKO, V.V., OVCHARENKO, N.F.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, RADIOTEKHNIKA, NO 2, 1970, PP 101-103

DATE PUBLISHED-----70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., ENERGY CONVERSION
(NON-PROPULSIVE)

TOPIC TAGS--TUNNEL DIODE, MOLECULAR GENERATOR, QUARTZ CRYSTAL, ELECTRONIC
CIRCUIT, EXCITATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1291

STEP NO--UR/0108/70/000/002/0101/0103

CIRC ACCESSION NO--AP0123250

UNCLASSIFIED

2/2 034

CIRC ACCESSION NO—AP0123250

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT—(U) GP-0-

ABSTRACT. TWO NEW SCHEMES ARE DESCRIBED FOR QUARTZ GENERATORS BASED ON TUNNEL DIODES WHICH HAVE SIGNIFICANT ADVANTAGES FOR HIGH FREQUENCY OPERATION. RESULTS ARE PRESENTED FROM A THEORETICAL STUDY OF THE AREAS OF EXCITATION OF THE GENERATORS ALONG WITH AN EXPERIMENTAL VERIFICATION OF THE OPERATION OF ONE OF THE CIRCUITS AT A FREQUENCY OF 196 MC IN AN OSCILLATOR REGIME.

UNCLASSIFIED

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UR 9025

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AUTHOR-- OVCHARENKO, V.

TITLE-- HELICOPTER IN A SHOULDER PACK

NEWSPAPER-- TRUD, FEBRUARY 14, 1970, P 4, COLS 1-6

ABSTRACT-- YU. DEMCHENKO, D. KHITRYI AND V. GUSEV, ENGINEERS OF THE KIEV INSTITUTE "UKRNIIPLASTMASH", HAVE DEVELOPED A 25.5-KG HELICOPTER /"TURIST"/ CAPABLE OF FLYING AT SPEEDS UP TO 140-160-KM PER HOUR, HOVERING, AND LANDING ON A STRIP 3-3.5 METERS WIDE. THE IDEA OF A SHOULDER-STRAPPED HELICOPTER WAS CONCEIVED BY THE INVENTORS WHILE THEY WERE ATTENDING THE KHARKOV AVIATION INSTITUTE.

THE ROTOR BLADES AND THE FRAME OF THE NEW VEHICLE ARE MADE OF LIGHT ALLOYS WITH RUBBER SHOCK ABSORBERS AND CAN BE UNFOLDED INTO PROPER POSITION BY A HYDRAULIC DEVICE. THE VEHICLE IS EQUIPPED WITH A TWO-WAY RADIO SET WITH A RANGE OF 90 KILOMETERS.

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GENERAL DESIGNER O. K. ANTONOV FOUND THE DESIGN SUITABLE FOR PRO-
DUCTION.

AN EXPERIMENTAL LOT OF SHOULDER-PACK HELICOPTERS WILL BE PRODUCED IN
THE NEAR FUTURE. AT THE SAME TIME, A TWO-SEATER MODEL IS BEING
DEVELOPED.

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1/2 016
UNCLASSIFIED
TITLE--CAPACITANCE OF A PASSIVE TITANIUM ELECTRODE -U- PROCESSING DATE--02OCT70
AUTHOR--(02)--GVCHARENKO, V.I., NOVAKOVSKIY, V.M.
COUNTRY OF INFO--USSR
SOURCE--ZASCH. METAL. 1970, 6(2), 201-3
DATE PUBLISHED-----70
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.
TOPIC TAGS--METAL ELECTRODE, TITANIUM, ELECTRICAL CONDUCTIVITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1804
STEP NO--UR/0365/70/006/002/0201/0203
CIRC ACCESSION NO--AP0112790
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112790

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE C.D. VARIATIONS AND THE CAPACITANCE WERE STUDIED OF A PASSIVE TI ELECTRODE WITH INTERMITTENT CHANGES IN POTENTIAL IN A SOLN. OF 2N NA SUB2 SO SUB4 PLUS 0.1V H SUB2 SO SUB4 AT ROOM TEMP. THE RESULTS INDICATED THAT THE SEMICONDUCTOR CHARACTERISTICS OF THE BULK TIO SUB2 COULD NOT BE USED AS A GUIDE IN EVALUATING THE ELEC. FIELDS EXISTING IN PASSIVATING FILMS OF TI. AT VERY LOW ANODE POTENTIALS, WHEN THE THICKNESS OF THE SEALANT LAYER BECOMES VANISHINGLY SMALL, CAPACITATIVE MEASUREMENTS ARE INCAPABLE EITHER OF CONFIRMING OR REFUTING THE EXISTENCE OF A PASSIVATING FILM OF TI, WHICH THUS ACTS LIKE A CONDUCTOR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--CHARACTERISTICS OF THE LOCKING LAYER ON PASSIVE TITANIUM -U-

AUTHOR--(02)-OVCHARENKO, V.I., NOVAKOVSKIY, V.M.

COUNTRY OF INFO--USSR

SOURCE--ZASHCH. METAL. 1970, 6(3), 320-4

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--TITANIUM, METAL PASSIVATION, NITRIC ACID, ELECTRIC IMPEDANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3008/1044

STEP NO--UR/0365/70/006/003/0320/0324

CIRC ACCESSION NO--AP0138066

UNCLASSIFIED

PROCESSING DATE--04DEC70

UNCLASSIFIED

2/2 025

CIRC ACCESSION NO--AP0138066
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A STUDY WAS MADE ON THE FUNCTIONAL CONNECTION OF BOTH IMPEDANCE COMPONENTS OF PASSIVE TI WITH THE MEASURING POTENTIAL AND THE FREQUENCY OF THE ALTERNATING EMF. THE PASSIVE TI FILM WAS POTENTIOSTATICALLY FORMED DIRECTLY IN A SOLN. OF 2N NA SUB2 SO SUB4 PLUS 0.1N H SUB2 SO SUB4 AFTER THE CLEANED AND DEGREASED ELECTRODE WAS SUBJECTED TO CHEM. PASSIVATION IN 50PERCENT HNO SUB3. AT EACH MEASURING POTENTIAL BOTH IMPEDANCE COMPONENTS WERE DETD. AT SEVERAL FIXED FREQUENCIES 0.3-10 KHZ. EQUATIONS DERIVED FOR THE ACTIVE COMPONENT AND ITS OVERALL FUNCTIONAL CONNECTION OF IMPEDANCE WITH FREQUENCY AND MEASURING POTENTIALS, THE RECIPROCAL CELL CAPACITY, AND THE TAN DELTA SHOW THAT ALL THE FACTS OBTAINED IN THE EXPTS. RELATE TO THE LOCKING LAYER IN THE OVERALL PASSIVE FILM AND ARE EVIDENTLY DUE TO SOME SPECIFIC CHARACTERISTIC MATERIAL IN THAT LAYER.

FACILITY: NAUCH.-ISSLED.

FIZ.-KHIM. INST. IM. KARPOVA, MOSCOW, USSR.

UDC 620.193.01

USSR

OVCHARENKO, V. I., and NOVAKOVSKIY, V. M.

"Some Characteristics of the Barrier Layer on Passive Titanium"

Moscow, Zashchita Metallov, Vol 6, No 3, May-Jun 70, pp 320-324

Abstract: An investigation was made of the functional relations between both components of the impedance of passive titanium to the measurement potential and the alternating emf frequency. The investigated film was formed potentiostatically directly in the working solution (two normal Na_2SO_4 + 0.1 normal H_2SO_4) in two hours with a potential of 2 volts after the cleaned and degreased electrode was subjected to two-hour chemical passivation in 50% distilled nitric acid. For each measurement potential both impedance components (in a series circuit) were determined for several fixed frequencies from 0.3 to 10 kilohertz. The active components of the cell impedance and the inverse capacitance of the cell corresponding to the reactive measurement components are expressed mathematically in terms of frequency. Tabulated data are presented which demonstrate the independence of the loss angle tangent with respect to the measurement potential. The significance of the empirical laws found is discussed in terms of the following: 1) the total thickness of the oxide film on the titanium surface can be considered practically identical for all measurements; nevertheless, with a drop in the measurement

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OVCHARENKO, V. I., and NOVAKOVSKIY, V. M.

potential the inverse capacitance and active component of the electrode impedance (at constant frequency) decrease by one and the same power law, vanishing on extrapolation to one and the same potential v_0 (~ 0.1 volt) where the latter does not depend on the measurement frequency even though the frequency has different effects on the angular coefficients in the equations for R and $1/C$; 2) the significant dependence of the values of \bar{C} found and, especially, \bar{R} on the measurement frequency, clearly demonstrate that the true equivalent electrode circuit is very far from simple series inclusion of constant capacitances and resistances; 3) the independence of the ratio of \bar{R} and $1/\bar{C}$ with respect to the measurement frequency found with a constant frequency indicates that the apparent product $\bar{R}\bar{C}$ is basically determined by certain specific characteristics of the substance in the barrier layer which under the given conditions of formation of the film change little with respect to its thickness. It is pointed out that a deeper study of the frequency characteristics of both components of the impedance of the passive electrode and discovery of the mechanisms of these relations can be an important means of obtaining information about the properties and structure of passivating films and layers.

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172 034 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--NEW SCHEMES FOR QUARTZ GENERATORS BASED ON TUNNEL DIODES WITH
QUARTZ IN THE CAPACITANCE BRANCH OF THE CIRCUIT -U-
AUTHOR--(02)-OVCHARENKO, V.V.; OVCHARENKO, N.F.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, RADIOTEKHNIKA, NO 2, 1970, PP 101-103
DATE PUBLISHED-----70
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., ENERGY CONVERSION
(NON-PROPULSIVE)
TOPIC TAGS--TUNNEL DIODE, MOLECULAR GENERATOR, QUARTZ CRYSTAL, ELECTRONIC
CIRCUIT, EXCITATION ENERGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1291 STEP NO--UR/0103/70/000/002/0101/0103
CIRC ACCESSION NO--AP0123250
UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--30OCT70

GIRC ACCESSION NO--AP0123250

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TWO NEW SCHEMES ARE DESCRIBED FOR QUARTZ GENERATORS BASED ON TUNNEL DIODES WHICH HAVE SIGNIFICANT ADVANTAGES FOR HIGH FREQUENCY OPERATION. RESULTS ARE PRESENTED FROM A THEORETICAL STUDY OF THE AREAS OF EXCITATION OF THE GENERATORS ALONG WITH AN EXPERIMENTAL VERIFICATION OF THE OPERATION OF ONE OF THE CIRCUITS AT A FREQUENCY OF 196 MC IN AN OSCILLATOR REGIME.

UNCLASSIFIED

USSR

UDC 621.373.521.1:621.382.233(088.8)

OVCHARENKO, V. V., BIBERMAN, L. I.

"Generator of Quasiharmonic Oscillations"

USSR Author's Certificate No 252405, Filed 12 Jul 68, Published 2 Feb 70 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8 D821 P)

Translation: This author's certificate introduces a generator of quasiharmonic oscillations executed from tunnel diodes with band frequency tuning by varying the differential resistance of the diodes included in the inductive and capacitive branches of the oscillatory circuit. In order to expand the frequency tuning band and to improve linearity, the generator is also equipped with a correcting circuit consisting of an emitter repeater, a diode detector and a DC amplifier through which the generator output is connected to the anode of the diode included in the capacitive branch of the oscillatory circuit of the generator. There is one illustration.

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USSR

UDC: 621.373.521.1:621.382.233(088.3)

OVCHARENKO, V. V., BIBERMAN, L. I., Khar'kov Higher Command Engineering Academy

"A Generator of Quasiharmonic Oscillations"

USSR Author's Certificate No 251017, filed 15 Feb 68, published 5 Feb 70 (from
RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7D370 P)

Translation: A generator of quasiharmonic oscillations is proposed which contains a semiconductor diode, a parallel LC tank circuit, and a power supply. To provide simultaneous intercoupled biparametric amplitude-frequency modulation, an additional variable resistor made in the form of a point-contact diode is connected in the capacitive arm of the LC tank circuit, a second variable resistor in the form of a choke-shunted point-contact diode is connected in the inductive arm of the tank circuit, and the modulating signal source is connected to the points where the diodes are tied to the reactive tank circuit elements. V. P.

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AN0026668

UR 9003

TITLE-- ANNOUNCEMENT OF THE COMMITTEE ON THE LENIN AND STATE PRIZES

NEWSPAPER-- IZVESTIYA, FEBRUARY 18, 1970, P 3, COLS 1-5

ABSTRACT-- THE COMMITTEE ON THE LENIN AND STATE PRIZES HAS ANNOUNCED THE NAMES OF RESEARCHERS ADMITTED TO THE 1970 LENIN PRIZE COMPETITIONS. THE LIST INCLUDES G. V. NOVOZHILOV, YA. A. KUTEPOV, V. I. SMIRNOV, D. V. LESHCHINER, V. M. SHEYNIN, AND A. A. OVCHAROV FOR THEIR "DEVELOPMENT OF THE INTERCONTINENTAL PASSENGER AIRLINER IL-62", AND A. S. YAKOVLEV, YE. G. ADLER, M. G. BENDERSKIY, K. M. VALIK, AND K. S. KILDISHEVA FOR "JET PASSENGER AIRLINER YAK-40 POWERED BY THREE AI-25 ENGINES".

BOTH CANDIDATES WERE NOMINATED BY THE "MINISTRY OF AVIATION INDUSTRY."

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UDC: 539.293:548.4

~~CVCHAROV~~, A. T., KALININ, M. I., and LISITSYN, V. M.

"Kinetics of the Radiation Change in Crystal Density"

Tomsk, Izvestiya VUZ--Fizika, No 6, 1972, pp 139-141

Abstract: This brief communication gives the results of an investigation into the radiation change in the density of CaF_2 crystals and the kinetics of the growth of their absorption band after irradiation by protons. The purpose of the investigation is to study the kinetics of characteristic defect accumulation and find the absorption bands resulting from these defects in the crystal lattice. The CaF_2 crystals used in the experiments described in this communication were grown at the Leningrad Optical Glass Plant and subjected to proton irradiation at an energy of 4.5 Mev and at room temperature. An earlier paper written by the authors named above (Ye. K. Zavodskaya et al, Izvestiya VUZ USSR--Fizika, No 9, 1969, p 155) describes the method of measuring the crystal density, known as the flotation method; the absorption spectra were measured by an SP-4A spectrophotometer in the 215-1200 nm range. The authors are associated with the S. M. Kirov Polytechnical Institute at Tomsk.

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UDC 597:591.17

OVCHAROV, O. P., Institute of Biology of the South Seas, Academy of Sciences
Ukrainian SSR, Sevastropol'

"Hydrodynamic Role of the Branchial System of Fish in Passive Respiration"

Moscow, Zoologicheskii Zhurnal, Vol 49, No 10, Oct 70, pp 1583-1585

Translation: Investigations conducted at the Institute of Biology of the South Seas Academy of Sciences Ukrainian SSR, (Aleyev and Ovcharov, 1969) have revealed that a major portion of the body surface of the fish is washed by water flowing out of the gill slits. This confirmed previously advanced thesis (Breder, 1924; and Walters, 1962) concerning the respiratory effects in fish on the flow process. In passive respiration (in high-speed swimming), water passes by itself through the opened mouth into the mouth cavity of the fish, washes the branchial system, and passes through the gill slits to the outside where it forms a boundary layer. In this paper, only passive respiration is discussed; the hydrodynamic effects caused by active respiration in fish are not analyzed.

From hydrodynamics we know (Fabrikant, 1964) that the nature of the boundary layer is largely determined by the turbulence of the oncoming current.

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OVCHAROV, O. P., Zoologicheskiy Zhurnal, Vol 49, No 10, Oct 70, pp 1583-1585

We can therefore assume that the nature of the water layer adjacent to the fish also depends on the turbulence of the water flowing out of the gill slits. We believe that the nature of the stream that is being formed in the immediate vicinity of the fish is determined mainly by various structures located on the surface of the gill arches, especially by the gill spikes. Until now, most researchers have been analyzing differences in the gill spikes from the viewpoint of differences in the food taken in by the fish (Andriyashev, 1944, 1945, 1945a, 1948; Burdak, 1957; Kozhina, 1958; and others). Only A. P. Andriyashev (1945) explains the absence of the gill filter on the 2d-4th gill arches in *Pomatomus saltatrix* (L.), on the basis of the supposition that, in motion, water must rapidly pass through the gill-mouth cavity. The role of the gill filter in the nourishment of fish is beyond question. However, it is logical to assume that in addition to its basic function, the branchial system also performs the function of a system forming a circumfluent current, which is especially important for fast-swimming fish.

We have conducted a comparative study of the branchial system in four species of pelagic fish: *Trachurus mediterraneus ponticus* Alejev, *Spicara*

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USSR

OVCHAROV, O. P., Zoologicheskii Zhurnal, Vol. 49, No. 10, Oct 70, pp 1583-1585

smaris L., Scomber scombrus L., and Coryphaena hippurus L.

In the Trachurus and Spicara of a total length of 15.6 and 16.1 cm, the gill spikes are very similar and the differences in their structure are quite insignificant. Along its entire outer surface, at intervals of 0.3-0.5 mm, the first gill arch in these fish is supplied with long, cylindrical spikes covered with little thorns. These spikes, which may be up to 0.4 mm long, completely close the clearance between the first gill arch and the gill cover. The inner side of the first gill arch and both sides of the other arches are supplied with spikes shaped in the form of conical protuberances covered with thorns which are immersed in mucus along two-thirds of their length. The spikes are distributed in such a way that the tips of the spikes located on the inner side of one gill arch fit into the spaces between the spikes located on the outer side of the neighboring arch. On the whole, the branchial system of these fish resembles the rectifying grate used in wind tunnels and hydrofoils to laminate the stream. The water which passes through the gill filter is combed by the thorns located on the spikes, and this prevents turbulence in the adjacent layer along the front portion of the body.

The body of the Trachurus and Spicara is able to preserve laminar flow along a considerable portion of the body, as indicated by the formula describing the shape of the fish body which was presented by Yu.O. Alejev in 1963: $Y=y/L$.

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OVCHAROV, O. P., Zoologicheskiy Zhurnal, Vol 49, No 10, Oct 70, pp 1583-1585

where y is the distance from the front end to the highest point of the body, and L is the length of the fish to the end of the spinal column. The greater the value of L , the larger is the front portion of the body over which the boundary layer passes (Aleyev, 1963). The value of Y is high for the Trachurus and Spicara, being 0.45 and 0.40, respectively (Aleyev, 1963). Creating turbulence in the boundary layer adjacent to the front portion of the body would be energetically inconvenient for such streamlined bodies as those of the Trachurus and Spicara, because this would markedly increase drag. This consideration makes it obvious that it is necessary to laminate the water passing through the gill filter of these fish.

The Scomber has an even more streamlined body than the two preceding species. The Y value for the Scomber is 0.50 (Aleyev, 1963). As in the case of the Trachurus and Spicara, the gill filter of that fish also performs the function of a laminator; it is more dense, however, and the stream passing through it is laminated to a higher degree. In a Scomber of an overall length of 29.0 cm, we found along the whole outer side of the first gill arch flattened, 1.3-cm-long spikes supplied with thorns arising from a butt-end turned toward the mouth cavity. The inner side of the first gill arch and both sides of the other gill arches were supplied with spikes resembling elongated prominences

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OVCHAROV, O. P., Zoologicheskii Zhurnal, Vol 49, No 10, Oct '70, pp 1583-1585

with flattened tips. The tips of the spikes were better equipped with thorns than the spikes in the *Trachurus* and *Spicara*. The length of individual thorns reached 1.0-1.2 mm.

From the viewpoint of hydrodynamics, the body of the adult *Coryphaena* is nonstreamlined. In the specimen examined by us (overall length, 65.0 cm), the maximum height of the body was shifted forward so much that it was aligned with the gill slits. The Y index of the *Coryphaena* (0.23) is the smallest of all of the fish investigated by us. Nevertheless, the *Coryphaena* is a very active pelagic predator; the adults even feed on such fast fish as the *Exocoetidae*. Unlike the *Trachurus*, *Spicara*, and *Scomber*, the *Coryphaena* has no gill filter. In the central portion of the outer side of the *Coryphaena*'s first gill arch, there are nine gill spikes represented by flattened, dermal, 1.0-1.1 cm long outgrowths; the distance between the spikes is 0.4-0.5 cm. On the remaining surface of the first gill arch and between the long gill spikes, there are about 20 small prominences covered by thick thorns. Apparently, these prominences are modified gill spikes. Other gill arches have no spikes, but their surface is covered with thick thorns grouped into small islands. It is possible that the above-described specific properties of the branchial system in *Coryphaena* are correlated with the frontward position of the maximum body height, as indicated by the low Y index.

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USSR

UDC 615.372:576.851.555].015.45:
[612.11+612.112.3+612.419

NITSOVA, P. and OVCHAROV, R., State Institute for Drug Control, Sofiya

"Effect of Cyclophosphamide on Antibody Formation"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971,
pp 63-64

Abstract: The effect of different doses of the alkylating agent cyclophosphamide on antibody formation was studied in mice before receiving sheep erythrocytes. Cyclophosphamide in a dose of 5 mg/kg injected before and simultaneously with the antigen suppressed the formation of immunocompetent cells, while a dose of 0.5 mg/kg stimulated formation. A dose of 5 mg/kg of cyclophosphamide injected three days before immunization with sheep erythrocytes had an immunodepressive effect, while there was only a tendency in this direction after 1 mg/kg. However, the smallest dose used, 0.5 mg/kg, actually increased the number of immunocompetent cells compared with the control. The effect was most apparent 3 or 4 days after injection of the antigen.

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USSR

UDC: 681.121.4:531.751.3

KATYS, G. P., IL'INSKIY, V. M., OVCHAROV, V. A.

"Mass Flow Meters With a Braked Body of Revolution"

V sb. Tochnoye izmereniye raskhodov i kolichestv veshchestv (Precision Measurement of Rates of Flow of Substances and Their Quantities--collection of works), Vyp. 122 (182), Moscow-Kazan', 1970, pp 129-133 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 9, Sep 70, Abstract No 9.32.734)

Translation: A procedure is developed, and a flowmeter is built and tested which has a hysteresis clutch for slowing down a pretwisted flow. The flowmeter may be used in hydraulic and gas lines where the flow moves at an appreciable angular velocity relative to the axis of the pipeline for causes not connected with measurement purposes. A modification of the device is intentional creation of a twist in the flow, with no requirements for a steady-state angular velocity of the twist. Four illustrations, bibliography of two titles.

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USSR

UDC 620.186.14.669.24

TARNOVSKIY, G. A., GRATSIA NOV, YU. A., OVCHAROV, V. P., YAKUKHINA, L. I.,
CHIRKOVA, S. N., and KULIKOVA, L. P., Ural Scientific Research Institute
of Ferrous Metals

"Nature of Nonmetallic Inclusions in Alloy 58N Billets"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, Aug 73,
pp 44-46

Abstract: Results of correlated studies on the contamination of billets with nonmetallic inclusions are presented. The billets were batch produced (vacuum induction melting) and produced by new means using electron-beam (EBR) and plasma-arc (PAR) remelting, and were made from 58N invar alloy containing (in %): 58 Ni, 0.02 C (max), 0.5-0.8 Mn, 0.2 Si, balance-Fe. The contaminants consist mainly of titanium nitride and alumina minerals. The technological schemes of melting: open induction melting + EBR and open induction melting + PAR provide not only significant lowering of inclusion content but also producing metal free from large (greater than 7.5 microns) inclusions. Both production methods can be recommended for the industrial manufacture of alloy 58M. From the aspect of minimum inclusion content the EBR method is preferred, but for producing the required nature of inclusions and degree of dispersity the PAR method is better. Two tables.

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UDC 548.5:620.183

USSR

OVCHAROV, V. P.

"Growth of Crystals From Melt With a Needle Structure of the Crystallization Front"

Monokristally Tugoplavkikh i Redkikh Metallov [Single Crystals of Refractory and Rare Metals -- Collection of Works], Nauka Press, 1971, pp 25-31

Translation: The needle structure of single crystals is described, relating to the initial forms of the cellular-dendritic structure. Regularities of growth and appearance of this structure in crystals of various alloys are studied. It is demonstrated that the needle form of the crystallization front leads to stable growth of crystals and elimination of conditions for feeding of new crystallization centers, which determine the possibility of producing monocrystalline and textured ingots in industrial installations. 6 Figures; 5 Bibliographic References.

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- 45 -

USSR

UDC 615.31:547.857.012.1:542.9

OVCHAROVA, I. N., and GOLOVCHINSKAYA, YE. S.

"Synthesis in a Series of Purine Derivatives. XXXIII. Some New Type Diethylenidophosphimidopurines"

Moscow, Khimik-Farmatsevticheskiy Zhurnal, No 4, 1973, pp 17-19

Abstract: The synthesis of a series of derivatives of 2- and 6-iminopurines substituted on the imino groups by diethylenidophosphanide group is described. Their synthesis was undertaken to compare the biological activity of these compounds with the activity of the previously synthesized diethylenidophosphamidopurines obtained from the corresponding aminopurines not containing the N-methyl group in the pyrimidine ring. Some differences in the interaction of the amino- and iminopurines with phosphorous oxychloride are described. The biological investigation of 2- and 6-diethylenidophosphimidopurines revealed that their anticancerous activity is significantly inferior to the activity of 2-, 6- and 8-diethylenidophosphamidopurines.

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USSR

UDC: 613.1

DANILOV, Yu. Ye., Doctor of Medical Sciences, Director of the Central Scientific Research Institute for Health Resort Medicine and Physiotherapy, USSR Ministry of Health, and OVCHAROVA, V. E., Head, Division of Medical Climatology and Climatotherapy, Central Scientific Research Institute of Health Resort Medicine and Physiotherapy, USSR Ministry of Health

"Why Is the Midmountain Environment Healthful?"

Moscow, Priroda, No 7, 1971, pp 8-14

Abstract: Despite the wide use of health resorts in the mountains for the treatment of such diseases as tuberculosis, bronchial asthma, incipient forms of hypertension, various forms of psychosis and anemia, etc., the mechanism of their curative action is not yet clear. Several zones have been distinguished by altitude in a medical sense. These zones are used for treating different diseases. Climatologists differentiate the factors of the mountain climate into two groups: conservative factors, which distinguish the climate of any mountain area from that of lowland or sea-level regions; and specific factors which distinguish one mountain area from another. Conservative factors depend on the elevation. These include: reduced atmospheric pressure; reduced air temperature and humidity; insignificant changes in meteorological conditions

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USSR

DANILOV, Yu. Ye. and OVCHAROVA, V. F., Priroda, No 7, 1971, pp 8-14

from day to day, against a background of more pronounced changes over the course of one day; increased total solar and ultraviolet radiation; electromagnetic conditions in the atmosphere favorable to the human organism -- depressed gradient potential and increased total conductivity (chiefly due to negative aeroions); increased quantities of ozone, terpenes, phytoncides; and finally, extreme purity and transparency of the air.

The partial pressure of oxygen in the air has a significant influence on the respiratory process; but the parameters now available do not give an adequate idea of the actual quantity of oxygen in the air. The authors describe experiments carried out by one of them and by other researchers to improve these parameters. From these experiments it appears that on ascending into the mountains we experience a change in the oxygen content of the air equivalent to that which occurs in lowland or sea-level regions with the onset of a large cyclone. Such changes are of great significance for those suffering from cardiovascular disorders who already have, in Sechenov's expression, "internal altitude." The article is supplied with five graphs showing variations in various meteorological indexes; these graphs have extremely detailed captions. There is also one table showing meteorological indexes in various places in the Soviet Union.

2/2

1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--COMPLICATIONS AFTER OPERATIONS ON THE STOMACH IN AGED PATIENTS -U-

AUTHOR--(03)--LEGNTYEVA, N.S., MESHALKIN, I.N., OVCHININSKIY, N.N.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 6, PP 46-50

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SURGERY, STOMACH, GERONTOLOGY, TUMOR, PERITONEUM, SUTURE,
ARTERIAL ANASTOMOSIS, EMBOLISM, LUNG, CARDIOVASCULAR SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1783

STEP NO--UR/0531/70/000/006/0046/0050

CIRC ACCESSION NO--AP0129151

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129151

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS ANALYZE DATA OF 175 RADICAL OPERATIONS ON THE STOMACH (OF THEM 28 GASTRECTOMIES) PERFORMED FOR CANCER (108), PEPTIC ULCER (49) AND BENIGN TUMORS (12). CONCOMITANT DISEASES OF INTERNAL ORGANS WERE NOTED IN 101 PATIENTS. IN 54 PATIENTS IN THE POSTOPERATIVE PERIOD THERE WERE OBSERVED FUNCTIONAL DISORDERS OF INTERNAL ORGANS AND COMPLICATIONS, WHICH IN 7 CASES WERE THE CAUSE OF A LETHAL OUTCOME (4. PLUS OR MINUS 1.5PERCENT): 5 PATIENTS DIED FROM PERITONITIS DUE TO FAILURE OF ANASTOMOTIC SUTURES, 2 FROM EMBOLISM OF THE PULMONARY ARTERY. BESIDES, IN 8.7PERCENT OF PATIENTS THERE WERE SURGICAL COMPLICATIONS, IN 8.7PERCENT, CARDIOVASCULAR, IN 5.4PERCENT, PULMONARY, IN 3PERCENT, THROMBOEMBOLIC. THE AUTHORS EMPHASIZE THAT CONSTANT CLINICO FUNCTIONAL OBSERVATION OVER PATIENTS IN A SPECIALIZED POSTOPERATIVE DEPARTMENT ENSURES THE TIMELY DETECTION AND FUNCTIONAL DISORDERS OF INTERNAL ORGANS IN OPERATED PATIENTS AND THE REQUIRED CORRECTION OF THESE DISTURBANCES BEFORE THE DEVELOPMENT OF COMPLICATIONS.

UNCLASSIFIED

AA0038342-

Orchinkin, N.N. UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 3/70

237668 SLAG from steel production is prepared for use in structural materials by coarsely comminuting the slag, removing the residual metal by means of a magnet; keeping the slag in damp state for 3-5 days by moistening it with water; finely comminuting the material; and repeating the magnetic separation of the metal. The storage in the damp state presents a subsequent self-disintegration of the slag to powder, and thus improves its properties as a structural material. 2.10.67. as 1188558/29-33. N N OVCHINKIN et alia Chelyabinsk Metallurgical Plants Design Inst. (16.6.69.) Bul.8/12.2.69. Class 80c. Int.Cl. C04b.

LD

18

1/2

19731456

AA0038342

AUTHORS: Ovchinkin, N. N.; Kislitsin, Ye. M.; Kozlov, V. I.;
Likhacheva, T. F. and Kaygorodova, T. A.

Chelyabinskiy Gosudarstvennyy Institut Proyektirovaniya
Metallurgicheskikh Zavodov

2/2
19731457

USSR

ZEL'DOVICH, YA. B., and OVCHINNIKOV, A. A., The Physico-Chemical Institute
imeni L. YA. Karpov

"Repopulation of Highly Excited Vibrational Levels in a Cold Lattice"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol
13, No 11, 5 Jun 71, pp 636-639

Abstract: This article looks at a molecular crystal consisting of diatomic molecules. In an earlier article one of the authors studied the influence of anharmonicity on the lifetime of highly excited vibrational levels in molecular crystals. Here the authors examine another aspect of this problem: that is, the assumption that the total number of vibrational quanta are approximately preserved and the stationary state is sought at a given lattice temperature and a given value of N . The authors use the molecular distribution by vibrational states as the topic of the research. Due to anharmonicity the energy of the two-quantum state is less than that of two single-quantum states. This being true also for higher states, the authors express this through several detailed equations and give a graphic illustration. They note that the effect is most strongly manifested at low temperatures in molecular crystals consisting of diatomic molecules

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USSR

ZEL'DOVICH, YA. B., and OVCHINNIKOV, A. A., Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 13, No 11, 5 Jun 71, pp 636-639

of N_2 , H_2 , O_2 , and NO. Of interest also are HCl types of these crystals in which the single-quantum levels are much easier to excite. All the conclusions reached in this article, with some modification, are applicable to gases and liquids as well. However, the temperature in these cases must be sufficiently low. One figure, 11 equations, bibliography of 5 titles.

2/2

- 106 -

1/2 021 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--CHYLTHORAX AND CHYLOPERITONEUM IN CHILDREN -U-
AUTHOR--(03)-DELETSKIY, S.YA., OVCHINNIKOV, A.A., MULINA, TS.I.
COUNTRY OF INFO--USSR
SOURCE--KHIRURGIYA, 1970, NR 6, PP 88-94
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PEDIATRICS, LYMPHATIC SYSTEM, SURGERY, DIAGNOSTIC MEDICINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1776 STEP NO--UR/0531/70/000/006/0088/0094
CIRC ACCESSION NO--AP0129144

2/2 021

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0127144

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNDER OBSERVATION WERE SEVEN CHILDREN, AGED FROM 4 AND ONE HALF MONTHS TO 11 YEARS, SUFFERING FROM DEFECTS OF MAJOR LYMPHATIC VESSELS. CHYLOTHORAX IN THREE PATIENTS, CHYLOPERITONEUM, IN TWO AND IN TWO CHILDREN THERE WAS A COMBINATION OF THESE AFFECTIONS. THE CAUSE OF LYMPHORRHAGIA WAS AS FOLLOWS: MALFORMATION OF THE LYMPHATIC SYSTEM (IN 2 PATIENTS), BIRTH INJURY (IN ONE CASE), INJURY OF THE LYMPHATIC DUCT DURING THE OPERATION (IN 2 CASES), AN INFLAMMATORY PROCESS (IN 2 CASES). THREE CHILDREN WERE OPERATED UPON. IN TWO OF THEM THE CAUSE OF LYMPHORRHEA WAS REVEALED AND ELIMINATED BY LIGATION OF THE LYMPHATIC DUCT. FOUR PATIENTS WERE CURED BY REPEATED PLEURAL PUNCTURES. IN THE AUTHORS' OPINION THE INEFFECTICACY OF CONSERVATIVE TREATMENT OF CHYLOTHORAX AND CHYLOPERITONEUM IN CHILDREN SERVES AS AN INDICATION TO OPERATIVE INTERVENTION. THE METHOD OF CHOICE IS LIGATION OF THE LYMPHATIC VESSEL ABOVE AND BELOW THE SITE OF LYMPHORRHAGIA. FACILITY: KAFEDRA DETSKOY KHIRURGII TSIU, MOSKVA.

CLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DIFFUSION CONTROL OF CHAIN TERMINATION AND MOLECULAR WEIGHT
DISTRIBUTION IN RADICAL POLYMERIZATION -U-
AUTHOR--(04)-KOZLOV, S.V., KAMENOMOSTSKAYA, S.L., DYCHINNIKOV, A.A.,
YENIKOLOPYAN, N.S.
COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(5), 1063-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--REACTION KINETICS, RADICAL POLYMERIZATION, MOLECULAR WEIGHT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3004/1871

STEP NO--UR/0020/70/191/005/1063/1063

CIRC ACCESSION NO--AT0132133

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132133

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. MATH. RELATIONS ARE DEVELOPED TO
EXPRESS THE DEPENDENCE OF CHAIN TERMINATION KINETICS AND MOL. WT.

DISTRIBUTION ON DIFFUSION CONTROL IN RADICAL POLYMER.

FACILITY:

INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.311.21.004(47+57)

OVCHINNIKOV, A. I.

"Ice Problems in the Karelian Power System"

Tr. koordinats. soveshchaniy po gidrotekhn (Works of the Coordinating Conferences on Hydroengineering), 1970, vyp. 56, pp 162-164 (from RZh-Elektrotekhnika i Energetika, No 2, Feb 71, Abstract No 2 D125)

Translation: The following measures are being taken at the hydroelectric power plants of the Karelian Power System in the prewinter and winter periods: 1) more frequent observations of the hydrometeorological situations; 2) preparation of the spillways for winter operation, electrical heating of the turbine grills and reserve technical water supplies; 3) removal of debris and driftwood. On cooling the water to $+0.3^{\circ}\text{C}$, special operating conditions of the hydroelectric power plant are declared before the period of stable ice 10cm thick on the open water sets in. The special mode is characterized by uniform operation of the hydroelectric power plant with reduced flow rates; at a water temperature of up to $+2^{\circ}\text{C}$, a slush ice signal switches on, at a temperature of 0.3°C , the hydroelectric power plant is converted to reserve water supply from the tailrace, and at 0.1°C , heating of the grills is started. In the absence of heating at the hydroelectric power plant, in the presence of slush ice the generator is converted to the synchronous

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USSR

OVCHINNIKOV, A. I., Tr. koordinats. soveshchaniy po gidrotekhn., 1970, vyp. 56, pp 162-164

compensator mode, the gates of the spillways are opened, and the high-speed shields for cleaning the grills are dropped. In any case, pressure control in the technical water supply system is required. With a grill drop of 1.5 meters, the generators are shutdown, and the power deficit is compensated for by the power system. The ice is cleared from the forechamber by Polip type grab buckets. The winter operation of the cascade of Vyg Hydroelectric Power Plants is described. The bibliography has 3 entries.

2/2

1/2 047 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--RADIATION STABILITY OF ZNS PLUS PRIMELO B TYPE DETECTORS TO
NEUTRONS -U-
AUTHOR--(04)-GANICHEV, G.I., KOLESOV, B.M., OVCHINNIKOV, A.K., TIMOFEYEVA,
T.V.
COUNTRY OF INFO--USSR
SOURCE--PRIB. TEKH. EKSP. 1970, (2), 78-80
DATE PUBLISHED-----70
SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, PHYSICS
TOPIC TAGS--ZINC SULFIDE, BORON ISOTOPE, NEUTRON DETECTOR, SCINTILLATOR,
RADIATION EFFECT, LIGHT EMISSION, RADIATION INTENSITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/1077 STEP NO--UR/0120/70/000/002/0078/0080
CIRC ACCESSION NO--AP0136497
UNCLASSIFIED

2/2 047

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136497

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LOWERING WAS STUDIED OF THE
LIGHT OUTPUT OF ZNS PLUS PRIME10 B DETECTORS OWING TO RADIATION FAULTS
CAUSED BY THERMAL N. AT DOSAGES ALRGER THAN 10 PRIME12 N-CM PRIME2 THE
REDN. OF THE LIGHT OUTPUT IS SIGNIFICANT. FACILITY: VNII
RAZVED. GEOFIZ., LEINIGRAD, USSR.

UNCLASSIFIED

USSR

UDC 621.385.546.19'68'

PTASHCHENKO, A.A., PRESNOV, V.A., KRUGLOV, I.I., GOLETBIYEVSKIY, N.N.,
OVCHINNIKOVA, A.P.

"Excess Currents And Aging Of Light-Emitting Diodes Based On GaAs"

Elektron.tekhnika. Nauch.-tekhn.sb. Poluprovodn. pribory (Electronic Technics.
Scientific-Technical Collection. Semiconductor Devices), 1971, Issue 7(64), pp
16-20 (from RZh:Elektronika i yeye primeneniye, No 4, April 1972, Abstract No
4B347)

Translation: The aging was studied of GaAs light-emitting diodes with zinc as
the acceptor. Both conventional and anomalous aging was observed. It is shown
that the excess currents responsible for aging consist of volume and surface
components and have a tunnel-thermal nature and are connected with nonuniform-
ities of the p-n junctions. 5 ill. 5 ref. Summary.

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USSR

UDC 621.791.76:621.7.044.2:669-419.4:621.643.4.065

LISUKHA, G. P., Engineer, KHEYFETS, M. Ye., Engineer (Volgograd Ship Building Plant), KAZAK, N. N., Engineer, OVCHINNIKOV, A. B., Engineer, SAKHNOVSKAYA, Ye. B., Engineer, and TRYKOV, Yu. P., Candidate of Technical Sciences (Volgograd Polytechnical Institute)

"Efficiency of Bimetallic Steel-Aluminum Adapters Produced by Explosive Welding"

Moscow, Svarochnoye Proizvodstvo, No 10, Oct 70, pp 20-22

Abstract: Tests were made of a composite material produced by explosive welding of St.4S and Kh18N10T steels 8 mm thick to a cladding layer of AMg6 aluminum alloy 6 mm thick with a sublayer of AD1 technical aluminum 1.5 mm thick acting as a plasticity buffer. The tests showed that the bimetal AMg6 + St.4S has an average layer-separation resistance of 9.9 kg/mm² and a shear strength of 7.6 kg/mm², while AMg6 + Kh18N10T has strengths of 7.0 and 6.8 kg/mm², respectively. The AMg6 + steel produced can be used for the manufacture of adapters of various shapes for the production of steel-aluminum welded structures. The proper sequence for welding of a steel-aluminum structure to avoid overheating of the bimetal

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USSR

LISUKHA, G. P., et al, Svarochnoye Proizvodstvo, No 10, Oct 70, pp 20-22

over a broad range of welding currents was determined. If the optimal welding current values determined are exceeded, a sharp decrease in strength of the welded joints involving Kh18N10T steel occurs, as a result of its higher tendency toward overheating than St.4S.

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1/2 040 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--ADSORPTION AND ELECTRON EMISSION OF BARIUM AND CESIUM FLUORIDE
DOUBLE FILMS ON TUNGSTEN -U-
AUTHOR--(02)-LVCHINNIKOV, A.P., TSAKEV, B.M.
COUNTRY OF INFO--USSR
SOURCE--RADIOTEKHNIKA I ELEKTRONIKA, NO. 4, 1970, PP 876-877
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--BARIUM FLUORIDE, CESIUM, TUNGSTEN, METAL COATING, WORK
FUNCTION, VOLT AMPERE CHARACTERISTIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO-----FD70/605041/F06 STEP NO--UR/0109/70/000/004/0876/0877
CIRC ACCESSION NO--AP0142763

UNCLASSIFIED

2/2 040

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NC--AP0142763

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS OF RESEARCH ON BARIUM AND CESIUM FLUORIDE FILMS ON FLUORIZED TUNGSTEN ARE PRESENTED IN THIS BRIEF COMMUNICATION. THE RESEARCH WAS EXPERIMENTAL, AND WAS CONDUCTED IN A SPHERICAL ELECTRON PROJECTOR IN A VACUUM OF 10 PRIME⁹ NEGATIVE MM HG OBTAINED THROUGH THE USE OF A MOLYBDENUM SPRAY ABSORBER AND A BAYARD-ALPERT MONOMETER. AFTER CAREFULLY CLEANING THE EDGE OF THE SPECIMEN, BARIUM WAS SPRAYED ON IT, AND THE VOLT AMPERE CHARACTERISTICS DETERMINING THE DEPENDENCE OF THE WORK FUNCTION ON THE BARIUM SPRAY TIME WERE PLOTTED. THE BARIUM WAS MAINTAINED AT A TEMPERATURE OF 900DEGREES K TO DISTILL THE BARIUM IN ITS SPRAYING OVER THE EDGE. THE AVERAGE WORK FUNCTION OF THE PURE TUNGSTEN EDGE WAS FOUND TO BE 4.5 EV. BY HEATING THE EDGE TO 2400-2500DEGREES K, THE CESIUM WAS DRIVEN OFF AND THE TUNGSTEN SURFACE WAS THEN FLUORIZED, THIS HAVING BEEN DONE AFTER THE EDGE WAS CLEANSED OF BARIUM AND THE SURFACE SPRAYED BY CESIUM FLUORIDE. FURTHER DETAILS OF THE PROCESSING ARE GIVEN, AND THE RESULTS OF THE RESEARCH PRESENTED IN TABULAR FORM. PHOTOGRAPHS OF THE TUNGSTEN EDGE ARE ALSO SHOWN.

UNCLASSIFIED

OVCHINNIKOV, F. Ya.

UTILIZING THE REACTOR INSTALLATIONS AT THE NOVO-VORONEZH
ATOMIC ELECTRIC POWER PLANT

Excerpts from Russian-language book by F. Ya. Ovchinnikov, L. M. Voronin, L. I. Golubev, et al.: Eksploataziya reaktorovkh ustroystv Novovo-Voronezhskoy AES, 1972, Atomizdat, Moscow, pp. 1-70.

JPRS 59461
9 JULY 1973

(3)

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USSR

UDC 539.214;539.374

OVCHINNIKOV, I. G.

"Study of Cylindrical Bending of a Plate of a Nonlinearly Elastic Material"

V sb. Raschet prostranstv. sistem v stroit. mekh. (Calculation of Three-Dimensional Systems in Structural Mechanics -- Collection of Works), Saratov, Saratov University, 1972, pp 44-49 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V457)

Translation: The cylindrical bending of a plate of infinite length in one direction is investigated. The σ_i - ϵ_i diagram is assumed given (σ_i and ϵ_i are the intensities of the stresses and deformations). The method of consecutive loads combined with the method of expansion in terms of a small parameter is applied in solving the problem. Analysis is limited to the case of small bends. A plate under the action of a uniformly distributed load is considered as an example; the σ_i - ϵ_i diagram is put in the form $\sigma_i = E\epsilon_i - m\epsilon_i^3$, where E and m are constants. 5 ref.

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USSR

UDC 517.53:517.947.42

OVCHINNIKOV, I. S.

"Lower Bound of the Dirichlet Integral in Mapping a Sphere Onto a Region"

Novosibirsk, Sibirskiy Matematicheskiy Zhurnal, Vol 13, No 1, 1972, pp 142-152

Abstract: This paper is a continuation of an earlier article by the same author O nesushchestvovanii otobrazheniy v prostranstve (On the Non-Existence of Mappings in Space) published in the Dokl. AN SSSR, 179, No 1, 1968, pp 24-27. In the present article, proofs are given of some of the results obtained in the earlier article, and the more general case is considered which permits mapping onto unbound regions in n -dimensional Euclidean space. A relationship is derived from which can be deduced a broad class of spatial regions, $n \geq 3$, onto which a sphere cannot be mapped within the limits of the class of mappings considered. Four examples of the type of regions discussed in the earlier article are given, and the mapping that can be made on them is examined.

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USSR

UDC 533.411+541.1

OVCHINNIKOV, I. V., GAYNULIN, I. F., GARIF'YANOV, N. S., Corresponding Member of the Academy of Sciences USSR and KOZYREV, B. M., Kazan Physico Technical Institute, Kazan, Academy of Sciences USSR

"The Nature of Superfine Interaction with p^{31} in Dithiophosphenes Cu (II), VO(II), CrO(III), MoO(III) and WO(III)"

Moscow, Doklady Academy Nauk SSSR, Vol 191, No 2, 11 Mar 70, pp 395-398

Abstract: One of the significant characteristics of electron paramagnetic resonance is the possibility of observing the spectra supplementary superfine structures (SSFS) in which there is interaction of an unpaired electron with nuclear magnetic moments of atoms, situated considerable distance from the paramagnetic "ion". The mechanism of such a distant dislocation of the unpaired electron in many cases is still not clear and investigation of it is necessary both for taking from SSFS information about the nature of chemical bonds in complex compounds, and also for deeper understanding of the nature of superfine interaction itself.

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USSR

OVCHINNIKOV, I. V., et al., Doklady Academy Nauk SSSR, Vol 191,
No 2, 11 Mar 70, pp 395-398

In the article the authors review experimental results obtained by others in the investigation of EPR of dithiophosphene complexes of Cu(II), VO(II), CrO(III), MoO(III), and WO, as well as give the following results of their investigation of the nature of SSFS of P^{31} on the compounds Cu(II) and VO(II): (a) the appearance of SSFS of P^{31} especially in the complex VO(II), of extremely large intensity; (b) significant distinction in the magnitude of the superfine interaction isotropic constant A^P in Cu compounds in comparison with analogous V compounds; (c) little anisotropy of superfine interaction; (d) the constant A^P increases during substitution of less electronegative radicals for greater electronegative ones. Data on the other investigated compounds is also given.

2/2

1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--NATURE OF PHOSPHORUS, 31 HYPERFINE INTERACTION IN DITHIOPHOSPHINE
COMPLEXES OF CU PRIME2 POSITIVE, VO PRIME2 POSITIVE, GRO PRIME3
AUTHOR--(04)-OVCHINNIKOV, I.V., GAYNULIN, I.F., GARIFYANOV, N.S., KOZYREV,
B.M.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 395-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--PHOSPHORUS ISOTOPE, PHOSPHORUS SULFIDE, COPPER COMPLEX,
CHROMIUM COMPLEX, MOLYBDENUM COMPLEX, TUNGSTEN COMPOUND, VANADIUM
COMPLEX, HYPERFINE STRUCTURE, MOLECULAR ORBITAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/1508 STEP NO--UR/0020/70/191/002/0395/0398
CIRC ACCESSION NO--AT0138508
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0138503

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A TABULATION OF PRIME31 P FINE
STRUCTURE LINES IS GIVEN FOR THE COMPLEXES OF CU PRIME2 POSITIVE, CRO
PRIME3 POSITIVE, MOO PRIME3 POSITIVE, WO PRIME3 POSITIVE, AND VO PRIME2
POSITIVE WITH R SUB2 PS SUB2 PRIME NEGATIVE ION IN WHICH R IS A PR, PH,
ET, OR ETO GROUP. IN THE VANADYL COMPD. A GREAT DEAL OF FINE STRUCTURE
ARISES FROM PRIME31 P. THE FINE STRUCTURE IS EXPLAINED IN TERMS OF MO
THEORY. FACILITY: KAZAN. FIZ. TEKH. INST., KAZAN. USSR.

UNCLASSIFIED

USSR

UDC: 621.386.623.5.001.5

BOBROVSKIY, Yu. D., OVCHINNIKOV, K. D.

"Concerning Nonlinear Analysis of Reflex Klystrons With High Electronic Conductivity"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 4, Apr 72, pp 818-825

Abstract: The method of averaging is used for a second-approximation analysis of the reflex klystron. Expressions are derived for calculating the basic characteristics of reflex klystrons for working conditions and parameters where higher harmonics of current must be taken into account. Examples of calculation are presented and the results are discussed. It was found that nonlinear effects due to the presence of higher harmonics may have an appreciable effect on the amplitude and frequency of oscillations (hysteresis phenomena, change in the sign of the slope of electron tuning). The degree of this effect is a complex function of several parameters. Anomalies are basically the results of the influence of odd harmonics. Therefore even harmonics could be omitted to simplify a more refined model of the reflex klystron with regard to multiple electron transits and the influence of forces of repulsion. The authors thank M. B. Golant for interest and constructive criticism.

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Materials

USSR

UDC 621.385.032.213.6

SAVITSKIY, YE. M., MOROZOV, A. V., IVANOVA, K. N., BELOUSOV, A. I., BARON, V. V., ROZHDESTVENSKIY, V. M., OVCHINNIKOV, M. A.

"Alloy for Manufacturing the Parts of the Cathode Junction of Electronic Devices"

USSR Author's Certificate No 304642, filed 14 August 1969, published 25 May 1971 (from Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 17, 1971, No H 01j 1/20)

Translation: 1. An alloy for manufacturing the parts of the cathode junction of electronic devices based on niobium is introduced. It is distinguished by the fact that in order to improve strength and stability of shape of the parts, the alloy contains tungsten and zirconium additives.

2. The alloy according to item 1 distinguished by the fact that it contains 7-9% tungsten and 2-2.5% zirconium is introduced.

3. The alloy according to item 1 distinguished by the fact that it contains molybdenum is introduced.

4. The alloy according to item 3 distinguished by the fact that it contains 5-7% tungsten, 1-1.5% zirconium and 4-6% molybdenum is introduced.

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USSR

UDC 621.385.032.21 (088.8)

SAVITSKIY, YE. M., MOROZOV, A. V., IVANOVA, K. N., PELCUSOV, A. I., BARON, V. V., ROZHDESTVENSKIY, V. M., OVCHINNIKOV, M. A.

"Alloy For The Production Of Components Of The Cathode Unit Of Electronic Devices"

USSR Author's Certificate No. 304642, filed 14 August 1969, published 15 September 1971 (from RZh--Elektronika i yeye primeneniye, No 3, March 1972, Abstract No 3A49)

Translation: A cathode-heating unit is proposed by which, with the object of increasing the stability, reliability, and longevity of a component, the cathode holder, screens, and pistons are produced from RN-6 or RN-8 alloys based on niobium. The RN-6 alloy contains (percent by weight): tungsten 5-7, molybdenum 4-6, zirconium 2-2.5, remainder niobium. The cost of the proposed alloy is considerably less than the cost of tantalum. The alloys are characterized by highly stable properties and sufficient plasticity, which makes it possible to produce tubes, wire, sheets, and foil 1-0.1 mm thick, from them under industrial conditions by the method of processing various semifinished products by pressure. Use of the electron-beam method of smelting considerably reduces the content of gaseous impurities, and a three-fold remelting is used for a more uniform composition of ingots. Sheets 0.5-0.1 mm thick are obtained by the hot forging method and cold rolling with intermediate recrystallization annealings.

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ISSN:

ZHUK, N. S., MI, A. S., MIRCHENICHENKO, N. I., KIM, V. YU., ~~CHUCHENIKOV, N. A.~~
and YUGAY, YU. B., Karakh Institute of Epidemiology and Microbiology, Kara-
tal'sk Rayon Sanitary Epidemiological Station, and Tal'dy-Kurgansk Oblast'
Sanitary Epidemiological Station

"Control of Blood-Sucking Insects in the Paddies of the Karatal'sk Rayon
Rice-Growing System"

Alma-Ata, Zdravookhraneniye Kazakhstana, Vol 30, No 5, May 71, pp 14-15

Abstract: Favorable conditions for the propagation of mosquitoes exist in the
rice paddies of Karatal'sk Rayon. Large amounts of larvae of *Anopheles* '
maculipennis, *An. hyrcanus*, and *Culex modestus* are present in the paddies.
Application of chlorophes in 0.5-0.8% solutions was effective in the control
of mosquito larvae. Extirmination of the larvae to the extent of 100% was
obtained when these solutions were applied in amounts \approx 100 l./ha. The solu-
tions were either sprayed from an aircraft or released into the paddies on
the ground level. The first method sometimes resulted in inadequate spraying
because of misses due to improper signaling while the second method had the
drawback that the solution did not spread in a sufficient concentration to
areas distant from the point of release. Organophosphorus compounds can be
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ZHUK, N. S., et al., Zdravookhraneniye Kazakhstana, Vol 30, No 5, May 71,
pp 14-15

used on rice crops only before flowering of the plants. Sound agricultural methods including lack of inclines in the system of paddies, dense planting of rice, and drainage of water from the paddies, dense planting of rice, and drainage of water from the paddies also proved effective in the control of mosquitoes.

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- 9 -

1/2 019 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--EXPERIMENTAL YAWS AND ELECTRON MICROSCOPY OF TREPONEMA PERTENUE --U--
AUTHOR--OVCHINNIKOV, N.M., DELEKTORSKIY, V.V., KENIGSBERG, T.L.
COUNTRY OF INFO--USSR
SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 4, PP 42-49
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ELECTRON MICROSCOPY, RABBIT, TUBERCULOSIS, INOCULATION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1990/1733 STEP NO--UR/0206/70/000/004/0042/0049
CIPC ACCESSION NO--AP0109694
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PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0109694

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RABBITS WERE INOCULATED INTRACUTANEOUSLY IN THE SCROTUM AND INTRATESTICULARLY AND GOLDEN HAMSTERS INTRACUTANEOUSLY IN THE INGUINAL AREA WITH A SUSPENSION OF TREPONEMA PERTENUE. HAMSTERS FAILED TO SHOW ANY CLINICAL MANIFESTATIONS WHEREAS RABBITS, REGARDLESS OF THE WAY OF INOCULATION, DEVELOPED ON SCROTUM DENSE TUBERCULOUS NODES MOST FREQUENT ON TUNICA DARTOS VARYING IN SIZE FROM A MILLET GRAIN TO A CHERRY OR EVEN A PLUM. WASSERMANN, KAHN, CYTOCHOLIN TESTS, AS WELL AS IMMOBILIZATION AND IMMUNOFLOUORESCENCE TESTS BECAME POSITIVE. EXAMINATION OF TREPONEMA PERTENUE IN THE DARK FIELD AND IN ELECTRON MICROSCOPE USING NEGATIVE STAINING AND ULTRATHIN SECTION METHODS REVEALED GREAT SIMILARITY TO T. PALLIDUM, T. PERTENUE WAS FOUND TO HAVE CYSTS, BUT THEY HAD A ONE OR TWO LAYER COMMON MEMBRANE AND NOT A THREE LAYER MEMBRANE LIKE THE FORMER. THE COVER OF T. PALLIDUM IS MORE MANIFEST, THE ENDS OF T. PALLIDUM ARE MORE EXTENDED AND THE DISTANCE TO BLEFAROPLASTS IS LONGER, BUT THESE DISTINCTIVE SIGNS ARE UNRELIABLE. FACILITY:
MIKROBIOLOGICHESKIY OTDEL TSENTRAL'NOGO N, I KOZHNO, VENEROLOG INSTITUTA
MINISTERSTVA ZDRAVOOKHRANENIYA SSSR, MOSCOW.

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UNCLASSIFIED

UNCLASSIFIED
TITLE--A CONVENIENT NUTRIENT MEDIUM FOR GROWING COCCIDII FROM THE
PATHOLOGICAL MATERIAL -U-
AUTHOR--CVCHANNIKOV, N.M., LURYE, S.S., DANILOVA, T.N.
COUNTRY OF INFO--USSR
SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 1, PP 67-71
DATE PUBLISHED-----7C
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CULTURE MEDIUM, VENERAL DISEASE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1979/0874
CIRC ACCESSION NO--APOC47348
STEP NO--UR/C2C6/70/OCQ/001/0067/0071
UNCLASSIFIED

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Acc. Nr: **AP0047348**

Ref. Code: **UR0206**

PRIMARY SOURCE: Vestnik Dermatologii i Venerologii, 1970,
Nr 1, pp 67-71

A CONVENIENT NUTRIENT MEDIUM FOR GROWING GONOCOCCI FROM THE
PATHOLOGICAL MATERIAL

N. M. Ovchinnikov, S. S. Lur'e T. N. Danilova

Summary

Simple nutrient media are not suitable for primary isolation of gonococcus. A better medium is one with the addition of ascitic fluid. At present, however, it is difficult to obtain ascitic fluid in sufficient amounts. A number of ascitic-free media has been prepared which are quite good for primary isolation of gonococci from the pathologic material. Ingredients used for preparation of the media are readily available.

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UDC 621.318.85

OVCHINIKOV, N.P., and YERMAKOV, V.G., Il'yanovsk Scientific Research, Planning and Technological Institute of Machine Building

"Photoelectric Alarm Unit"

USSR Authors' Certificate No 296168, Cl. H 01 h 47/24, filed 27 May 69, published 9 Apr 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika No 1, Jan 72, Abstract No 1A421P)

Translation: The proposed photoelectric alarm unit contains a photoresistor, resistor, and power source. To increase operating speed and reliability, it has in it a transistor, to whose collector load the photoresistor is connected in series, while a capacitor is connected in parallel to the above-mentioned collector circuit. 1 illustration.

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Acc. Nr:

AP0049906

Abstracting Service:

CHEMICAL ABST. 5-70

Ref. Code:

UR0492

102190r Analysis of the operation of isobutane columns. Rudoy, G. Ya.; Chekhov, O. S.; Oychinnikov, P. A.; Khodak, V. S. (USSR). *Gazov. Prom.* 1976, 19(4), 38-40 (Russ). An anal. was conducted on 4 com. distn. columns for the sepn. of iso- from n-butane in a light hydrocarbon mixt. Columns 1 and 2 (diam. 240 cm) were of the bubble-cap tray type and operated with the feed entering trays no. 38, 40, and 42. Columns 3 and 4 (diam. 180 cm) were of the slotted grid-plate type and operated with the feed entering plates no. 42, 46, and 50. The pressure of the system was 7 atm. The free cross-section areas were ~25% of the tray or plate areas. Some data obtained on columns 1, 2, 3, and 4 were, resp.: iso-C₄ in the feed 22.0, 32.0, 29.0, and 23.0 wt. %; feed rate 5.0, 10.0, 3.7, and 12.0 ton/hr; reflux rate 36.0, 41.0, 37.5, and 60.0 ton/hr; iso-C₄ distillate rate 1.1, 2.4, 0.9, and 2.8 ton/hr; iso C₄ distillate compn. (C₃) 4.0, 0.9, 3.5, 0.9, (iso-C₄) 95.0, 98.8, 95.5, 98.8, (n-C₄) 1.0, 0.3, 1.0, 0.3 wt. %; residue stream rate 3.0, 7.6, 2.8, and 9.2 ton/hr; residue stream compn. (C₃) 5.0, 6.8, 4.0, 6.8, (iso-C₄) none, (n-C₄) 95.0, 93.2, 96.0, 93.2 wt. %. The calcd. values for the stripping sections of columns 1, 2, 3, and 4 were,

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resp.: reflux ratio 33.0, 18.0, 41.0, 21.5 to 1.0; vapor velocity in the free cross section 0.15, 0.18, 0.26, and 0.41 m/sec; liq. velocity in the free cross section 0.075, 0.135, —, — m/sec; equation for the flow pattern $y = 1.10x - 0.0051$, $1.14x - 0.0099$, $1.07x - 0.0029$, and $1.15x - 0.0030$. Correlating equations were developed for detg. the actual no. of trays operating in the stripping section; and the mass-transfer coeff., $K_{y,i}$ for both the vapor and liq. phases, expressed as (kg mole)/(m^2 hr), where m^2 is the area of a bubble-tray. Values of $K_{y,i}$ for the vapor phase of the stripping sections of columns 1, 2, 3, and 4 were 34, 74, 78, and 134, resp. Values of $K_{y,i}$ are in good agreement with the mass-transfer coeff., $k_{y,i}$, calcd. by the method of V. A. Ivanov, *et al.* (CA 67: 118601h). A new type of fractionating tray is proposed, which includes 2 zones of vapor-liq. contact, higher velocity of vapor in the free cross section of the tower, and a spacing of 500 mm between trays. L. U. Franklin

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UNCLASSIFIED
TITLE--FORMULAS FOR EFFECTIVE VISCOSITY OF STRUCTURIZED LIQUIDS ALLOWING
FOR THIXOTROPY -U-
AUTHOR--(02)--GVCHIANIKOV, P.F., MIKHAYLOV, N.V.
COUNTRY OF INFO--USSR
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3, PP 409-415
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--FLUID VISCOSITY, THIXOTROPE, FLUID STRUCTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1584
STEP NO--UR/0069/70/032/003/0409/0415
CIRC ACCESSION NO--AP0125206
UNCLASSIFIED